than 3,000 Iranian physicians now live in the United States. Meanwhile many of Iran's problems in health care continue to be inadequately addressed.

Iran is more fortunate than most developing countries. In addition to its long cultural heritage, it now has the resources to undertake new initiatives in health care and health education. One such initiative is the establishment of the Imperial Medical Center of Iran (IMCI) now under construction in Tehran. A consortium of medical schools—Columbia, Cornell and Harvard—was involved in advising about the organization and development of this major academic health science center. An international Board of Governors, representing these and other American medical schools, continues to advise the Director, Abdol Hossein Samii, concerning academic policy. As presently projected the IMCI will undertake a number of activities more or less simultaneously. Its educational activities will include (1) a medical school with a strong science base tilted toward the training of academic physicians as well as practitioners, (2) a graduate school of biomedical sciences for the doctoral degree, (3) an undergraduate and graduate school of nursing, (4) a school for allied health professionals, (5) a school of health planning management and (6) a strong program for housestaff and specialty training. An important development has been the establishment of the Pahlavi Library of Medicine and Biomedical Communications Center, already operating in Tehran and linked to the National Library of Medicine via satellite. This library has been designated as the World Health Organization's regional library for the Middle East and Eastern Mediterranean region. An Institute of Continuing Education is being established which is of particular importance in a country with isolated facilities, comparatively poor communications and uneven levels of professional competency. The research programs envisioned at the IMCI will be in most of the traditional disciplines but there will be an attempt to give special emphasis to problems of special pertinence not only to Iran but to Third World nations in general: infectious disease, nutrition, population control, public health and health care delivery. The realization of these ambitious plans in the next few years should also establish the IMCI as a center for tertiary care in Iran and the Near East.

Is this a wise investment of Iranian resources? Certainly it would not be so if the building of a model academic center in Tehran were the only major investment made by the government to improve the health care of the Iranian people. The problems that must be faced in providing health care in Iran are multiple and complex. The IMCI will help solve some, but by no means all of them. IMCI will succeed only to the extent that it is a resource for training and research to meet the pressing problems of improving the quality of and the access to health care in Iran. It will be one important component of a solution and as such deserves the attention and assistance of American medicine. As this talented and ambitious people develop their own resources in health care, other nations may benefit on regional and international levels as well. They did so in the time of Avicenna. Why not now again 1,000 years later?

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Trends in the Science and the Art

THERE ARE SIGNS that we may be approaching a need for some change in medical practice as we have known it in the last few decades. On the one hand physicians have increasingly held to the premise that everything that is important in patient care must have a scientific basis, and if it does not it is not important. On the other hand a growing segment of the public, and many professionals and would-be professionals, are becoming dissatisfied with the care they are receiving at the hands of scientific doctors and are seeking care, even relief, elsewhere. Scientific medicine is sought and given its due when there is something that can be fixed, but often, perhaps even more often, there is a void of need which scientific medicine does not fill, and indeed may never be able to fill.

One senses two distinct social trends. One is to reduce or eliminate what is not scientific in patient care. The other is a growing search for and acceptance of alternative methods of care which may or may not have any scientific basis. The first trend seems motivated both by a laudable desire to rid scientific patient care of its impurities and possibly also by a desire to control costs. Donald Kennedy, Commissioner of the Food and Drug Administration, is in the forefront of this trend having recently said "No drug should be

permitted on the market unless it can be proved by rigorous experiment to alter the course of some ailment or disease; that is, it must be effective."[1] And one can easily see, the cost squeeze being what it is, that this approach may soon be applied to just about anything and everything doctors do for their patients. Not only drugs but services and procedures, whether in office, hospitals or elsewhere, may be subjected to the same test of scientific proof of effectiveness—and this is likely to be persuasive.

This writer is troubled by so rigorous a scientific approach. On the one hand as physician scientists we instinctively support this position. It will go against the scientific grain to justify the use of a pill, or a service, or a procedure unless we can show that it is effective. But there is a gnawing feeling that there is something wrong here. Putting aside the obvious question of whether we know enough yet to require scientific proof of the effectiveness of everything we do in patient care, there seems to be something else important which has been left out. Perhaps there is a clue in the second trend, the trend to seek and accept alternative methods of care, which in many cases seems to be almost a revolt against scientific medicine. Somehow, scientific medicine as we practice it today does not seem to satisfy patients and the public as well as did the old time "horse and buggy" doctor of the prescientific era. Clearly medicine is losing something, or has lost it.

This something we are losing or have lost is obviously not science. We have more and better science than ever. If it is not science, then it must be what used to be called the art, but which now seems to lack definition or description, or even much genuine interest. Experienced clinicians know what this something is, and patients and the public seem to sense it. And in the present stage of our knowledge and understanding it is not something that can be proved effective or not effective by rigorous experiment. We will need to have far more knowledge in the social and behavioral sciences and a much better comprehension of the human environment before this can be done. What seems really needed is much more emphasis on the teaching and practice of the art, in the face of professional preoccupation with the science and public preoccupation with feeling better in a tense, stressful and far too polluted world—with which many people find it difficult to cope.

There is danger now that the regulatory authorities in their frantic need to curtail costs, will, by seeking proof of effectiveness by rigorous experiment or otherwise, unwittingly deprive physicians of some essential tools of the art which they should probably be using more, not less. These tools are medicines that do no harm and the services of caring and concern, in addition to those of curing. In a sense medicine may be approaching an intersection in the road just ahead, where it may continue on what is still the relatively undeveloped country road of medical science, or rejoin the highway, where most of the traffic is, by once again embracing the whole of patient care—that is, care of the whole patient. In our present state of knowledge, medicine is without question still an art as well as a science, and the time has come when this needs more than just lip service. If we are to do this, the strict scientific approach must be leavened with a recognition that it will be a long time, if ever, before everything in patient care can meet the standard of scientific proof by rigorous experiment.

—MSMW

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EDITORIAL REVIEW

Progress With Hepatitis B Virus

RECENT RESEARCH with hepatitis B virus (HBV) emphasizes that this is a unique virus in several interesting ways; and as in all research, experimental results have continued to raise many new questions as old questions are answered. Gitnick's review in this issue covers some of the new ground and here I will only point out several of the unanswered questions about the nature and behavior of this important virus. One question concerns the identity of the infectious form of the virus. The failure so far to infect tissue culture cells or convenient experimental animals has prevented development of assays for infectious HBV short of transmission to man or the few other susceptible higher primates such as chimpanzees. The current methods for infectivity testing are so cumbersome that it has not yet been possible to directly identify the infectious particle. However, one form of